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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,014	09/26/2003	Sang Hee Kang	CU-3373 RJS	9550
26530	7590	10/04/2004	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1200 CHICAGO, IL 60604			TON, MY TRANG	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/673,014

**Applicant(s)**

KANG, SANG HEE

**Examiner**

My-Trang N. Ton

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 7-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kogo et al (U. S Patent No. 3,760,109).

Kogo et al discloses in Fig. 2B a time division multiplex transmission system including:

Regarding claim 1:

an input signal conversion unit (20) for converting a plurality of input signals (74, 76, 78) into a plurality of pulse signals (signals connected to output of 80);

a delay unit (82, 84, 86) for delaying the pulse signals (the signals connected to the output of 80) outputted from the input signal conversion unit (20) for a predetermined time to output the delayed pulse signals (signals connected to output at the delay circuits 82, 84, 86); and

a switch and output control unit (92, 98, 104, 22) for receiving the pulse signals (the output of first 80 in 74, 76, 78) outputted from the input signal conversion unit (20) and the delayed pulse signals (the signals connected to the output of the delay circuits 82, 84, 86) delayed for the predetermined time through the delay unit (82, 84, 86), and outputting the delayed pulse signals in the same form as the input signals inputted to the input signal conversion unit (20).

Regarding claim 2: the input signal conversion unit (20) has a plurality of pulse conversion units (80), which correspond to the plurality of input signals (74, 76, 78).

Regarding claim 3: the input signals (74, 76, 78) are level signals or pulse signals.

Regarding claim 6: the switch and output control unit (92, 98, 104, 22) comprises a plurality of switch and output control units (92) which correspond to the plurality of pulse signals (the signals connected to the output of the first 80 in 74, 76, 78); and

wherein the switch and output control units (92, 98, 104, 22) are activated by the pulse signals (the signals connected to the output of the first 80 in 74, 76, 78), and converts the delayed pulse signals (the signals connected to the output of 82, 84, 86) into a form of the input signals.

Regarding claim 10: a shared delay circuit (DELAY circuit including sub-delay 82, 84, 86) of a semiconductor device receiving a plurality of input signals (74, 76, 78) and delayed the plurality of input signals for a predetermined delay time using one shared delay circuit (DELAY circuit including sub-delay 82, 84, 86).

Regarding claim 11: the circuit converts the input signals (74, 76, 78) into pulse signals (signals connected to output 80), delays the pulse signals (82, 84, 86) for the predetermined time, and converts the pulse signal in the same form as the input signals.

Claims 10-11 are also rejected under 35 U.S.C. 102(b) as being anticipated by Itamura et al (U.S Patent No. 3, 919,683).

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Itamura et al disclose in Fig. 1 an ultrasonic wave transmitting and receiving apparatus including:

a shared delay circuit (51) of a semiconductor device receiving a plurality of input signals (50, see Fig. 11a) and delayed the plurality of input signals for a predetermined delay time using one shared delay circuit (51).

Regarding claim 11: the circuit (50) converts the input signals (see Fig. 11) into pulse signals (C1-Cn), delays (51) the pulse signals (C1-Cn) for the predetermined time, and converts the pulse signal in the same form as the input signals.

***Allowable Subject Matter***

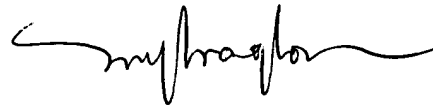
Claims 4-5, 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Trang N. Ton whose telephone number is 571-272-1754. The examiner can normally be reached on 7:00 a.m - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MY-TRANG NUTON  
PRIMARY EXAMINER

September 30, 2004